

Heimdal, Monica

From: John Brunini [jbrunini@brunini.com]
Sent: Monday, June 24, 2013 2:26 PM
To: Crooke, Patsy J NWO
Cc: kb@geomap.tv; gmeyer@carlsonmccain.com; Todd Hartleben; Cimarosti, Daniel E NWO
Subject: Information for Proposed Meeting on Thursday, June 27, 2013
Attachments: Williston Village RV Resort Wetland Delineation Report.pdf; Letter to Patsy Crooke.pdf; Wetland Mitigation Plan.pdf

Ms. Crooke,

Our law firm represents BIP, 40. Attached to this email, please find correspondence from our firm providing background information regarding possible impacts to wetlands in the Williston, ND area. These possible wetland impacts will be the subject of a meeting on Thursday between your office and representatives from Carlson McCain and BIP 40. Also attached and for your consideration is a proposed mitigation plan to address these possible impacts to wetlands. I will not be attending the meeting later this week but am available to discuss the matter if you have any questions regarding it. I will also be mailing a hardcopy of these documents to you in today's mail.

Thanks,
John Brunini

John A. Brunini

E: jbrunini@brunini.com
P: 601-973-8712 F: 601-960-6902

The logo for Brunini, featuring the word "BRUNINI" in a bold, serif font. Above the letters "U" and "N" is a stylized, curved line that arches over them, resembling a bridge or a swoosh.

BRUNINI, GRANTHAM, GROWER & HEWES, PLLC
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www.brunini.com
[Bio / V-Card](#)

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June 24, 2013

Patsy Crooke
Project Manager
United States Army Corps of Engineers
North Dakota Regional Office
1513 South 12th Street
Bismarck, ND 58504

Via Email and U.S. Mail

Re: BIP 40 LLC
Williston Village RV Resort
Section 24, T155N, R101W
Williston, Williams County, ND

Dear Ms. Crooke:

Our law firm represents BIP 40, LLC. We write to notify you that BIP recently learned of possible impacts to jurisdictional wetlands during its development of an RV Park near Williston in Williams County, North Dakota. Specifically, BIP's construction of the Williston Village RV Resort may have resulted in unintentional impacts of up to approximately 4.5 acres of a former oxbow/meander channel of Camp Creek in Williams County, North Dakota.

In October, 2011, in order to develop an RV Park to meet growing housing demands, BIP began work to acquire a parcel consisting of approximately 117 acres. In February, 2012, it retained a North Dakota civil engineering firm, SBL Associates, Inc., ("SBL"), to prepare a grading and improvement plan for the property. As part of this planning process, and as explained in more detail below, BIP relied on SBL to advise it regarding the presence of jurisdictional wetlands on the project site. In April 2012, SBL completed the improvement plans, and the plans were submitted to the City of Williston and the North Dakota Department of Health. On June 15, 2012, the City of Williston issued a grading permit. On July 3, 2012, the North Dakota Department of Health, Environmental Health Section, issued an NPDES permit.

Grading of the property commenced in July, 2012. While grading was in process, Pat Beebe of SBL informed BIP that the wet area in the northeast portion of the property likely contained jurisdictional wetlands and that this area was the only area on the property containing jurisdictional wetlands. During the grading process, and based on Beebe's statements regarding the presence of a jurisdictional wetland there, BIP prohibited contractors from placing any fill

Patsy Crooke
June 24, 2013
Page 2

material in the northeast portion of the property. Additional grading and placement of fill material occurred on other portions of the property, including such activities in the northwest portion of the property, which contained no surface water. All mass grading was completed sometime in September-October 2012. On March 13, 2013, SBL notified BIP that part of the northwest portion of the property – which had already been impacted by grading activities - was possibly a wetland.

After being informed of the existence of possible jurisdictional wetlands in the northwest portion of the property, BIP engaged Carlson McCain, Inc. to conduct a site investigation and wetland delineation. Due to prolonged winter weather this spring, Carlson McCain was unable to conduct field work on this project until May, 2013. Carlson McCain produced a wetland delineation report on May 17, 2013 which indicates that the BIP development may have impacted up to 4.5 acres of jurisdictional wetlands.

Upon learning of these possible wetland impacts, BIP instructed Carlson McCain to request a meeting with the Corps of Engineers to evaluate this matter and discuss potential solutions. To reiterate, BIP never intended to conduct development activities that would result in impacts to jurisdictional wetlands. BIP instead relied upon the expertise of SBL to advise it regarding the existence of jurisdictional wetlands in the project area. Unfortunately, BIP's reliance on that expertise appears to have been misplaced. Nevertheless, BIP looks forward to working with the Corps to resolve any impacts to wetlands that are determined to have occurred. Along those lines, Carlson McCain has developed a proposed conceptual wetland mitigation plan that we believe appropriately offsets the impacts to wetlands that may have occurred during the development project. This plan involves the expansion of existing on-site, in kind wetlands that would serve to mitigate for and offset the loss of functions and values provided by impacted wetlands.

Enclosed for your review prior to the proposed June 27, 2013 meeting is Carlson McCain's wetland delineation report dated May 17, 2013 and a proposed conceptual mitigation plan also prepared by Carlson McCain, Inc. BIP looks forward to working with you to resolve these issues as expeditiously as possible.

Sincerely,

Brunini, Grantham, Grower & Hewes, PLLC



John A. Brunini

Cc: BIP 40, LLC
Carlson McCain, Inc.



ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

June 20, 2013

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

Dear Mr. Brunini,

Carlson McCain, Inc. is pleased to submit the Wetland Mitigation Plan for the Williston Village RV Resort for your review.

Please call me at 701-595-7004 if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads 'Greg W. Meyer'.

Greg Meyer, MS
Ecologist

WETLAND MITIGATION PLAN

Williston Village RV Resort
Section 24, T155N, R101W
Williams County, North Dakota
Project #4554

Prepared for:

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

June 20, 2013



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EXECUTIVE SUMMARY

Construction of the Williston Village RV Resort (RV Resort) has impacted a wetland that appears to be connected to Camp Creek. A wetland delineation conducted by Carlson McCain, Inc. determined that 4.5 wetland acres were impacted by construction activities (Carlson McCain, 2013). This Wetland Mitigation Plan outlines procedures that will be taken to mitigate the wetland impact(s).

The RV Resort proposes to mitigate the impacted wetland area by creating/expanding wetlands of similar class and function. The on-site and in-kind mitigation wetlands will provide similar habitat and society functions at both local and landscape levels as the impacted wetland area. At the local level they will provide enhanced nesting, feeding, and brood-rearing habitat. At the landscape level they will create additional floodwater retention and improve water quality as areas along Camp Creek become developed. The mitigation site is located in the NE¼ of Section 24, T155N, R101W. The amount of wetland impacts and proposed compensatory mitigation are summarized in Table 1.

Table 1. Summary of Project Wetland Impacts and Compensatory Mitigation

Project Location	Williams County	Section 24, T155N, R101W
Project Wetlands	PEMA/PEMC (Cowardin 1979)	
Permanent Wetland Impact	4.5 Acres	
Mitigation Location	Williams County	Section 24, T155N, R101W
Area of Mitigation Site	Approximately 4.6 acres	
Area and Type of Mitigation	Approximately 4.6 acres of wetland expansion/creation	
Total Mitigation Credits	Approximately 4.6 acres	
Years of Monitoring	5 years	

The proposed mitigation wetland characteristics will be monitored for up to five years, or until the mitigation wetlands have met their performance standards for two consecutive years and receive the consent of the U.S. Army Corps of Engineers (USACE) to end monitoring. A monitoring plan is also included in this document.

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*Williston Village RV Resort
Wetland Mitigation Plan*

APPENDICES

- Appendix A** **Figures**
- Appendix B** **Williston Village RV Resort Wetland Delineation Report**
- Appendix C** **Mitigation Wetlands Design**

1.0 INTRODUCTION

Construction of the Williston Village RV Resort impacted approximately 4.5 wetland acres by filling a former oxbow/meander channel of Camp Creek (Appendix A). Camp Creek flows east through the northern portion of the RV Resort property toward the Little Muddy River. Fill was placed into the former oxbow/meander channel during construction activities. Construction was halted when the area was identified as a possible wetland. A wetland delineation that evaluated historic aerial photos and current field conditions was conducted to determine the area of impact (Appendix B). This report identifies the project impacts to the wetland and proposes an option to mitigate those impacts.

The wetland is located on the RV Resort property on the north edge of Williston, North Dakota, in the NE¼ of Section 24, T155N, R101W (Appendix A).

Table 2. Impacted Wetland Area

Wetland	NWI	Acres*	Wetland Impact Acres
Wetland 1	PEMA/PEMC	4.5	4.5
		Total	4.5

*Acreage estimated from wetland delineation contained in Wetland Delineation Report (Carlson McCain, 2013).

The RV Resort will oversee construction, management, and monitoring of the mitigation wetlands.

2.0 WETLAND IMPACT ASSESSMENT

The impacted wetland is located on RV Resort property and is classified as Palustrine Emergent Temporarily Flooded (PEMA) and Palustrine Emergent Seasonally Flooded (PEMC). The wetland area was a former oxbow/meander channel of Camp Creek and is located in the Little Muddy River watershed.

2.1 Mitigation Strategy

The RV Resort plans to create/expand existing wetland areas along Camp Creek by excavating adjacent uplands areas. The excavation will create shallow depressions that will be hydrologically connected with Camp Creek and are designed to become inundated and retain flows of the creek. Besides hydrology, Camp Creek and adjacent wetlands will provide a large seed bank to ensure the development of a functional hydrophytic vegetation community.

2.2 Mitigation Credit Ratios

Mitigation credit ratios describe the ratio of compensation credits given to certain actions of mitigation for affected acres. For example, a 1:1 ratio means that one mitigation acre is required to compensate for one affected acre. A 2:1 ratio means that two mitigation acres are required to compensate for one affected acre. Mitigation credit ratios established for North Dakota are shown in Table 3 (USACE 2009).

Table 3. Wetland Mitigation Credit Ratios

Mitigation Action	Ratio
Fully drained wetland restoration	1:1 acres
Wetland creation	2:1 acres
Wetland expansion	1:1 acres*

*Credit ratio predicted due to expansion of existing wetlands and Camp Creek providing adequate hydrology and a hydrophytic vegetation seed bank.

3.0 MITIGATION STRATEGY AND SITE

3.1 Mitigation Site Location

The mitigation area is located in the northeast corner of the RV Resort, approximately 235 feet from the impacted wetland area. The mitigation area will be adjacent to Camp Creek that flows into the Little Muddy River, which in turn flows into Lake Sakakawea.

The mitigation area is located within the Northern Glaciated Plains - Glaciated Dark Brown Prairie sub-ecoregion of North Dakota (Bryce et al. 1996). The Site's landscape consists of level to gently rolling plains topography with established drainage systems.

3.2 Mitigation Site Historic and Current Land Use

The mitigation area consists of an area of perennial grassland that has been used for livestock grazing and also appears to have been formerly cultivated. The vegetation on the Site primarily consists of crested wheatgrass (*Agropyron cristatum*) and western wheatgrass (*Pascopyrum smithii*).

3.3 Mitigation Wetlands

Two sites adjacent to Camp Creek and its associated wetlands have been selected for mitigation. Both sites consist of upland soils and vegetation but are immediately adjacent to Camp Creek and its associated wetlands. Both sites would be periodically inundated by high flows.

3.4 Wildlife Habitat and Use

The mitigation sites currently provide foraging and nesting habitat for grassland bird species. Creation/expansion of the mitigation wetlands will enhance habitat for species that utilize shallow wetlands for foraging and nesting. Wading shorebirds, waterfowl, amphibians, reptiles, fish species and other wildlife will all benefit from the mitigation wetlands. The Site is located within the Central Flyway migratory route and will be utilized by numerous waterfowl, waterbird, and passerine species.

Williston Village RV Resort
Wetland Mitigation Plan



Photograph 1 – Mitigation Site 1

Photograph taken facing south toward the RV Resort. Mitigation Site 1 is an upland area adjacent to Camp Creek. Crested wheatgrass is the primary vegetation on the site. Excavation of the site would allow inundation by high flows back-flooding into it from Camp Creek. The high flows would also bring hydrophytic vegetation seeds into the mitigation wetland. The blue line indicates the approximate location and shape of Mitigation Site 1.

Williston Village RV Resort
Wetland Mitigation Plan



Photograph 2 - Mitigation Site 2

Photograph taken facing south toward the east side of the RV Resort. The mitigation site is a low elevation upland area adjacent to the associated wetlands of Camp Creek. Crested wheatgrass and western wheatgrass are present on the site. Excavation of the site would allow inundation and saturation from the adjacent wetlands. The adjacent wetlands would also be a source of hydrophytic vegetation seeds. The blue line indicates the approximate location and shape of Mitigation Site 2.

4.0 MITIGATION SITE DESIGN

The mitigation design will create approximately 4.6 wetland acres (Table 4). The wetlands will have temporary hydrologic regimes and an NWI designation of PEMA. The impacted wetland area also had an NWI designation of PEMA.

Table 4. Mitigation Wetland Acres and Potential Credits

Wetland ID	NWI Classification	Restored Acres	Mitigation Ratio	Wetland Credits
Mitigation Site 1	PEMA	1.6	1:1	1.6
Mitigation Site 2	PEMA	3.0	1:1	3.0
	TOTAL	4.6		4.6

*Credit ratio predicted due to expansion of wetlands and Camp Creek providing adequate hydrology and a hydrophytic vegetation seed bank.

4.1 Wetland Delineation

A wetland delineation of the RV Resort was conducted by Carlson McCain, Inc. on May 9, 2013 (Appendix B). The delineation evaluated current field conditions and utilized historic aerial photos to determine the impacted area. Soils, hydrology, and vegetation were evaluated and documented during the wetland delineation at numerous observation points. Field photographs were also collected during the wetland field delineation.

4.2 Mitigation Plan

The mitigation plan includes excavating upland areas adjacent to Camp Creek and its associated wetlands. Water flow from Camp Creek and a high ground water table will provide hydrology to the mitigation wetlands. Topsoil will be removed and stockpiled nearby and then re-spread throughout the mitigation wetlands to ensure soil quality. Sub-soils will be removed and hauled away. Proposed grading plans are included in Appendix C.

Excavation of the mitigation wetlands will commence in 2013 following the approval of the mitigation plan and weather permitting.

4.2.1 Mitigation Wetland Seeding/Planting Plan

The mitigation sites will consist of an expansion of Camp Creek and associated wetlands. Saltgrass (*Distichlis spicata*), alkali grass (*Puccinellia nuttalliana*), and foxtail barley (*Hordeum jubatum*) are prevalent in the Camp Creek wetlands and will aid in vegetating the mitigation wetlands. Seeds from these species and others found in the Camp Creek wetlands will disperse into the mitigation wetlands during high flow. Wetland hay from adjacent wetlands will also be spread in the mitigation wetlands to help establish a hydrophytic vegetation seed bed.

*Williston Village RV Resort
Wetland Mitigation Plan*

4.2.2 Noxious Weed Species Management

Chemical and/or mechanical controls will be used to manage noxious weed species if they become prevalent within the mitigation wetlands and the adjacent uplands. The mitigation wetland site will be monitored annually by the RV Resort and appropriate steps will be taken to control noxious weeds. Noxious weeds identified by the North Dakota state list will be managed. Williams County does not list any additional noxious weeds.

Plants identified as noxious weeds include:

- Absinth wormwood
- Canada thistle
- Diffuse knapweed
- Leafy spurge
- Musk thistle
- Purple loosestrife
- Russian knapweed
- Spotted knapweed
- Yellow toadflax
- Dalmation toadflax
- Salt cedar

5.0 MITIGATION ECOLOGICAL BENEFITS

5.1 Wetland Ecosystem Services

The complex of mitigation wetlands will provide multiple benefits to the surrounding environment and ecosystem. Ecosystem services as described by Gleason et al. (2008) include:

- Carbon Sequestration
- Flood Water Storage
- Reduction of Sedimentation and Nutrient Loading
- Improved downstream water quality
- Wildlife Habitat

The mitigation wetlands will provide the aforementioned ecosystem services. The mitigation wetlands will be essential to improve downstream water quality in the Little Muddy River and Lake Sakakawea by retaining sediment and nutrients that will wash into Camp Creek during future development.

6.0 MONITORING PLAN

Wetlands used for mitigation purposes require subsequent monitoring of their hydrology and vegetation to ensure they are functioning correctly. The mitigation wetlands will be evaluated with wetland criteria as identified in the *Great Plains Regional Supplement to the 1987 Manual (Version 2.0)* (USACE 2010).

Monitoring of the mitigation wetlands will be conducted for at least five years, or until the mitigation wetlands have met their performance standards for two consecutive years and receive consent of the USACE to end monitoring.

6.1 Monitoring Methods

Monitoring of the mitigation wetlands will consist of an annual field visit, a monitoring report, and follow-up to any questions or suggestions from regulatory personnel. A field visit to the mitigation wetlands will be performed annually in late July or early August of each year that monitoring is required. The mitigation wetlands will be evaluated by the presence of indicators of wetland criteria, i.e., hydrology, hydrophytic vegetation, and the development of hydric soils at representative observation points. The spatial location of the observation points and the photo points will be collected during the initial monitoring effort with a GPS to ensure that the same locations are evaluated during subsequent monitoring visits.

6.1.1 Photo Points

Photo points are a specified location in which photographs will be taken. Photographs taken from a specified location and consistent direction will provide a visual account of the development of the mitigation wetlands.

Photo points will be established in strategic locations in order to document the changes occurring within the mitigation wetlands. The proposed locations and directions of the photo points can be seen in Figure 4 (Appendix B). The photo points will be marked with a metal stake and the spatial locations will be collected with a GPS. Photographs taken from these locations will have consistent camera settings and a documented viewing direction. Photo identification cards with pertinent information to the photo point will be placed in the photograph's field of view. Information documented on the photo identification card will include:

- Unique photo point identification
- Photographer's initials
- Date and time
- Magnetic declination
- Location

*Williston Village RV Resort
Wetland Mitigation Plan*

6.1.2 Wetland Vegetation

Wetland vegetation composition will be evaluated at each observation point following the guidelines set forth by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). An additional vegetation species list will be compiled while traversing between observation points. The adjacent uplands will be evaluated for the presence of noxious weeds.

6.1.3 Wetland Hydrology

Wetland hydrology indicators will be evaluated at each observation point following the guidelines set forth by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). Hydrology indicators will also be identified while traversing between observation points.

6.1.4 Hydric Soil Indicators

Soil pits will be evaluated at each observation point to identify the development of hydric soils. Hydric soils indicators will develop slowly over time and may not be visible during the monitoring effort. Hydric soil indicators will be based on the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010).

6.2 Problem Areas

Problem areas will identified and documented during the monitoring visits. Photographs and notes detailing each problem area will be collected during the field monitoring. Problems areas may involve erosion, areas barren of vegetation, etc.

6.3 Monitoring Report

Monitoring reports will be completed after each monitoring visit and submitted to the USACE North Dakota Regulatory Office in Bismarck, North Dakota. Each report will follow the guidelines set forth by the Mitigation Monitoring Plan (USACE 2010) and contain:

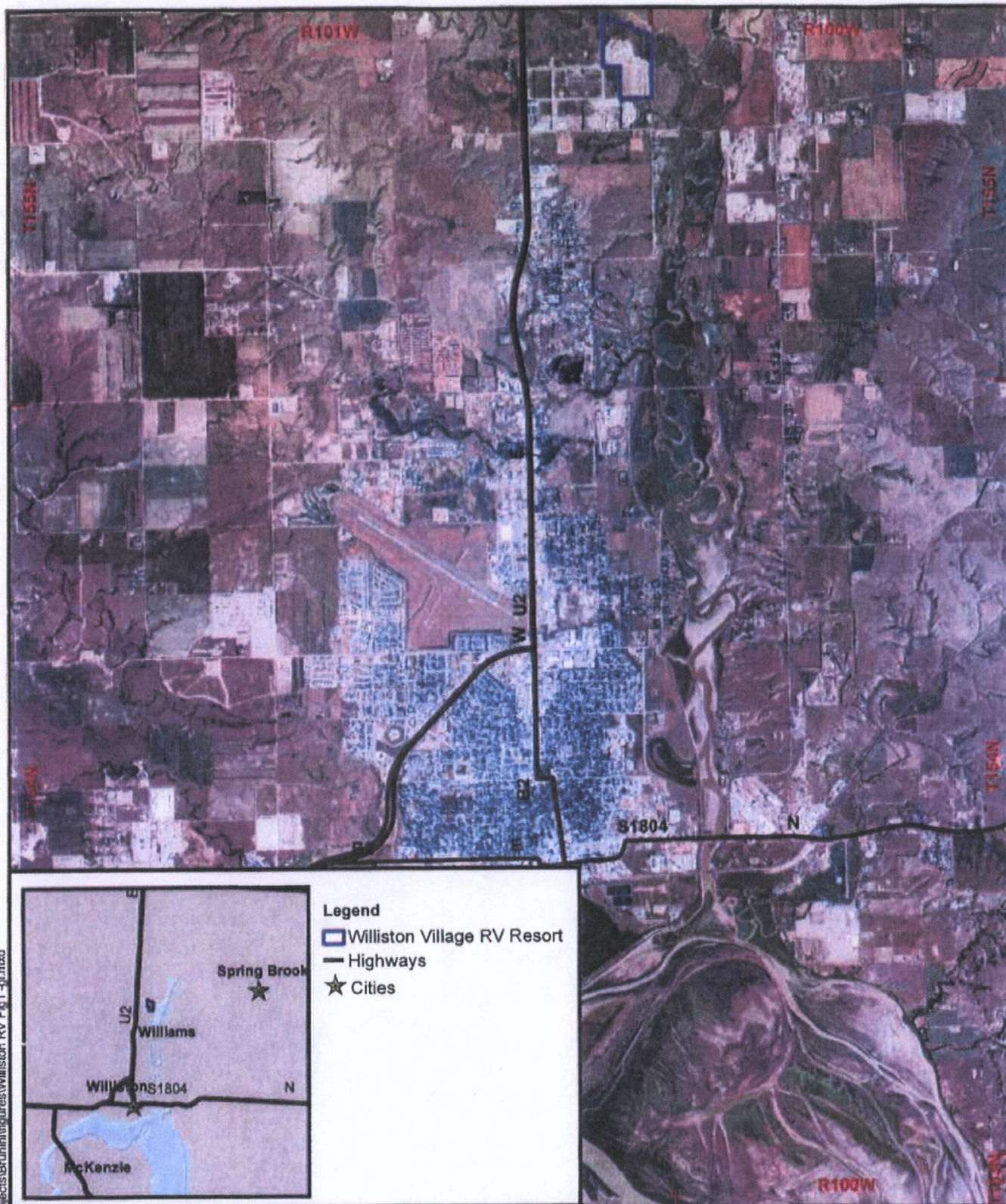
- USACE Permit Number
- Name and contact information of permittee, point of contact, and field observer(s)
- Name of person conducting monitoring reports and dates of monitoring visits
- Directions to and map of mitigation area
- Summary paragraph describing the project's purpose, impacted area's acreage and type, and mitigation wetlands acreage and type
- Timeline of mitigation wetlands' construction activities and final date of their completion
- Photographs and a narrative summary of the mitigation wetlands' progress and development into functional wetlands, i.e., meeting wetland criteria indicators
- Photographs and descriptions of any problem areas
- Recommendations for corrective or remedial actions (if necessary)
- Description and dates of implemented corrective actions (if applicable)

7.0 REFERENCES

- Bryce, S.A., Omernik, J.M., Pater, D.A., Ulmer, M., Schaar, J., Freeouf, J., Johnson, R., Kuck, P., and Azevedo, S.H., 1996, Ecoregions of North Dakota and South Dakota (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).
- Carlson McCain, Inc. 2013. Wetland Delineation Report: Williston Village RV Resort. Section 24, T155N, R101W. Williams County, North Dakota. 30pp.
- Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm> (Version 04DEC1998). Accessed May 2013.
- Environmental Laboratory. 1987. *Corp of Engineers Wetlands Delineation Manual*. Wetlands Research Program. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station, US Army Corp of Engineers, Vicksburg, Mississippi, USA.
- Environmental Laboratory. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)*. U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, USA.
- Gleason, R.A., Laubhan, M.K., and Euliss, N.H., Jr., eds., 2008, Ecosystem services derived from wetland conservation practices in the United States Prairie Pothole Region with an emphasis on the U.S. Department of Agriculture Conservation Reserve and Wetlands Reserve Programs: U.S. Geological Professional Paper 1745, 58 p.
- U.S. Army Corps of Engineers, 2009. Wetland Mitigation Banking in North Dakota. Interagency guidance for Mitigation Bank Sponsors.
<http://nwo.usace.army.mil/html/od-rnd/MitigationBankingGuidanceDocument.pdf>
Accessed May 2013.
- U.S. Army Corps of Engineers. 2010. *Mitigation Monitoring Plan*. North Dakota Regulatory Office. Bismarck, North Dakota.

Appendix A

Figures



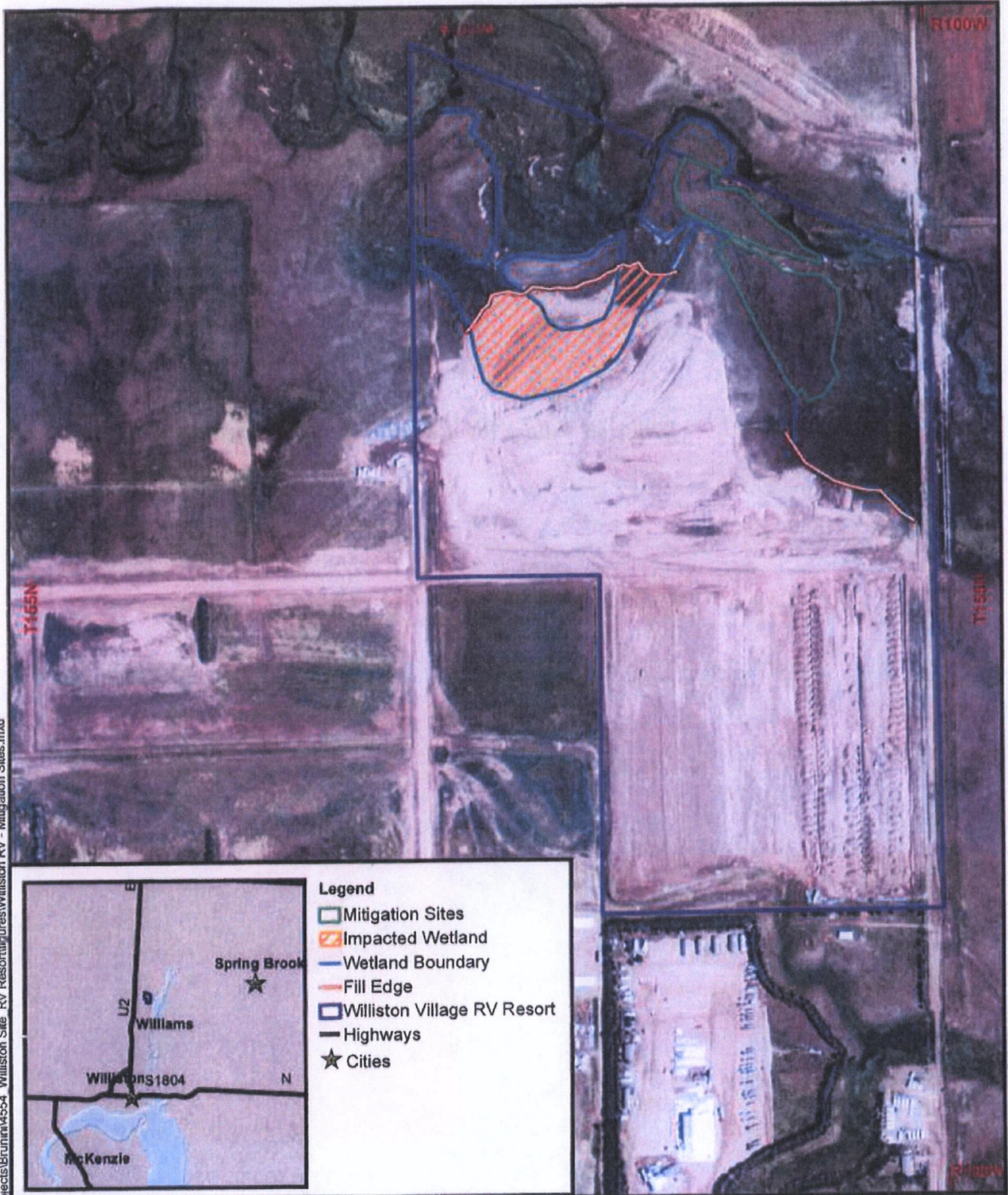
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May 2013

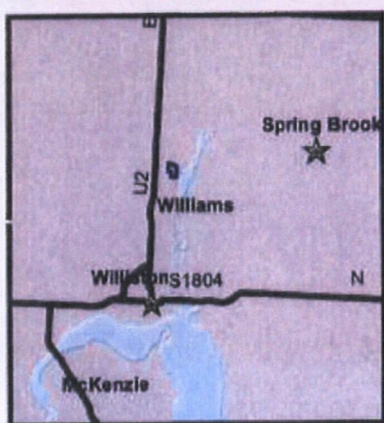
Carlson McCain

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600 South 2nd Street, Suite 105, Bismarck, North Dakota 58504
www.carlsonmccain.com

Figure 1
General Location
Section 24, T155N, R101W
Williston Village RV Resort



E:\Projects\Brunna\4554 Williston Site RV Resort\figures\Williston RV - Mitigation Sites.mxd
June 2013



- Legend**
- Mitigation Sites
 - Impacted Wetland
 - Wetland Boundary
 - Fill Edge
 - Williston Village RV Resort
 - Highways
 - ★ Cities

1:6,000
1 inch = 500 feet
0 125 250 500 Feet
Basemap: NAIP Orthophoto 2012
Williams County, North Dakota



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Figure 2
Mitigation Sites
Section 24, T155N, R101W
Williston Village RV Resort

Appendix B

Williston Village RV Resort Wetland Delineation Report

See May 17, 2013, letter.
Appendix B of June 20, 2013,
letter does not contain
p. 3, 3.0 Results —
pay missed when
scanning to PDF?

Appendix C

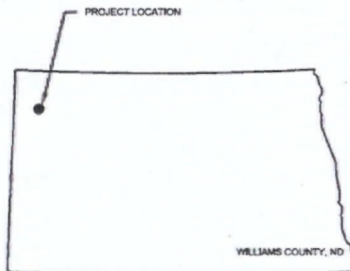
Mitigation Wetlands Design

WETLAND MITIGATION PLAN DRAWINGS

WILLISTON VILLAGE RV RESORT

BRUNINI FIRM

SECTION 24, T155N, R101W
WILLIAMS COUNTY, NORTH DAKOTA



LOCATION MAP
NO SCALE

SHEET INDEX

- 1 COVER SHEET
- 2 EXISTING CONDITIONS
- 3 GRADING PLAN



ESTIMATED EARTHWORK QUANTITIES

NO.	DESCRIPTION	QUANTITY	UNIT
1	TOPSOIL REMOVAL & REPLACEMENT (12" Depth)	10,030	C.Y.
2	ADDITIONAL UNCLASSIFIED EXCAVATION	11,000	C.Y.

Revisions:	

Carlson McCain
ENGINEERING - SURVEYING
808 S. 2nd St., Suite 100, Bismarck, ND 58504
Phone: 701-255-1475 Fax: 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.

Kirk L. Page
Date: 6/10/2013 Reg. No. PE-8682

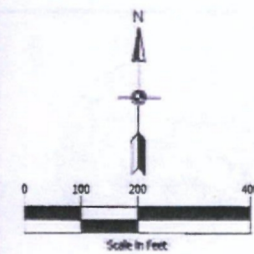
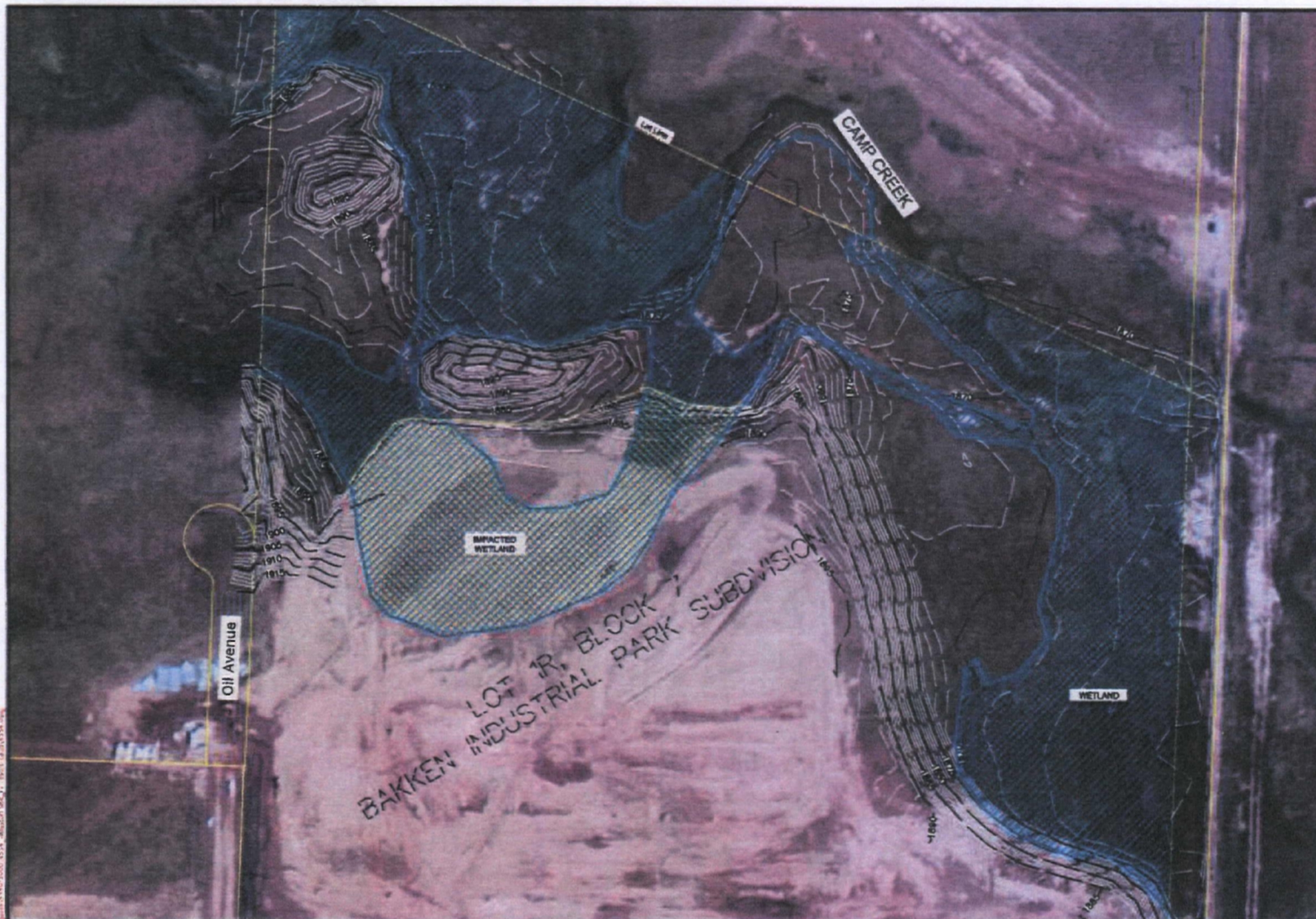
BRUNINI FIRM
190 East Capitol Street
Jackson, Mississippi, 39201

**WILLISTON VILLAGE
RV RESORT**
Williams County, North Dakota

**WETLAND MITIGATION
COVER SHEET**

Project No. 4554

1
3



LEGEND

- 1000 CONTOUR (EXISTING)
- WETLAND
- IMPACTED WETLAND

NOTES

1. CONTOURS SHOWN WERE DERIVED FROM FIELD TOPOGRAPHY SHOT 6/5/2013.
2. 2012 NAD AERIAL PHOTOGRAPHY SOURCE DATA.



Carlson McCain
 ENVIRONMENTAL - ENGINEERING - SURVEYING
 800 S. 2nd St., Suite 100, Bismarck, ND 58504
 Phone 701-255-1475 Fax 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.
 KVM L. Page
 Date 6/10/2013 Reg. No. PE-8682

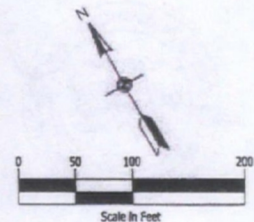
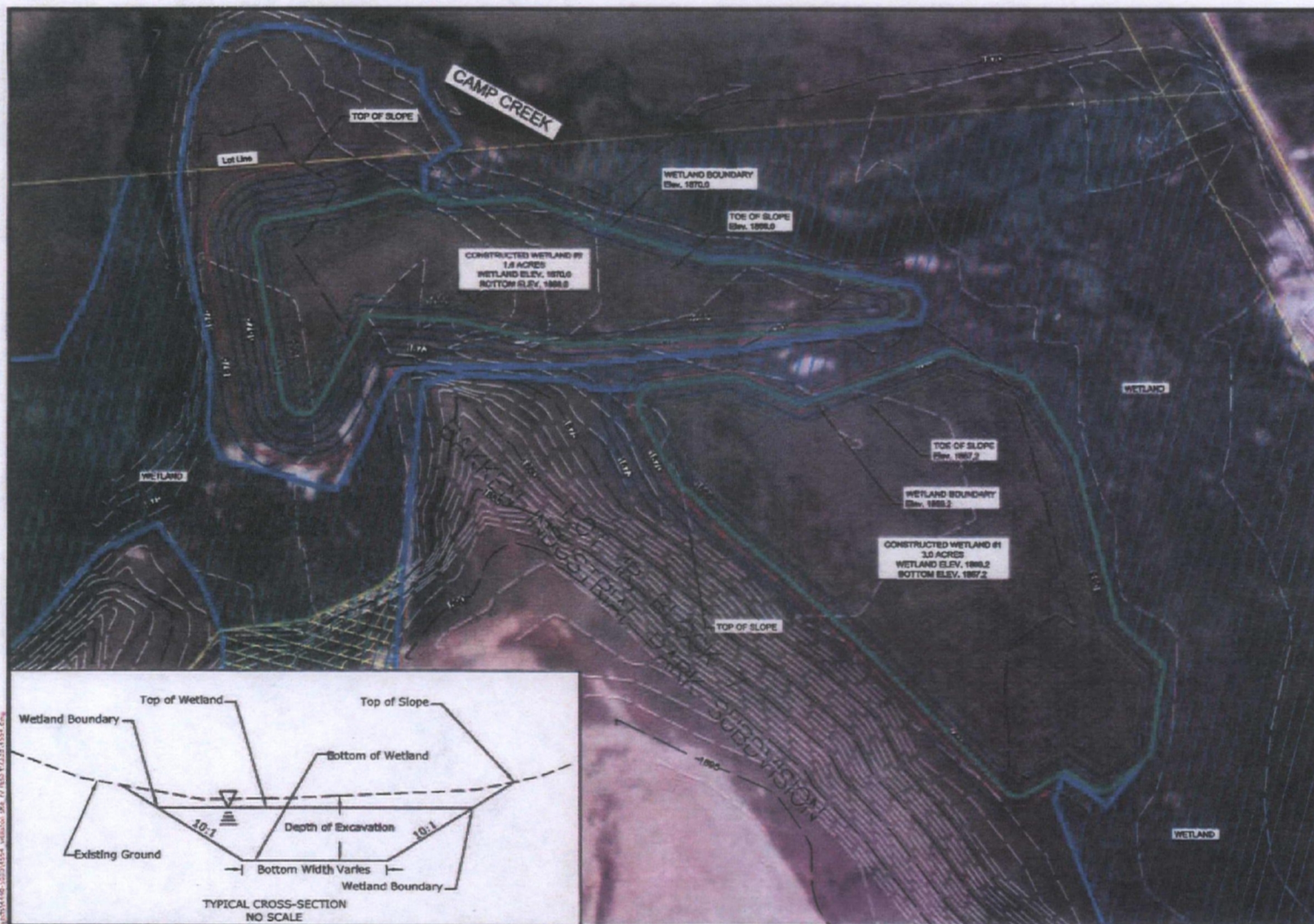
BRUNINI FIRM
 190 East Capitol Street
 Jackson, Mississippi, 39201

**WILLISTON VILLAGE
 RV RESORT**
 Williams County, North Dakota

**WETLAND MITIGATION
 EXISTING CONDITIONS**

Project No. 4554

2
3

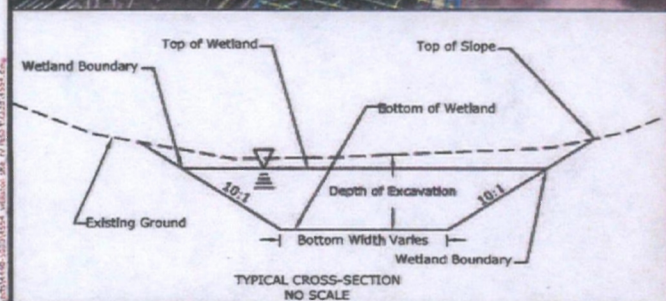


LEGEND

- 1880 CONTOUR (EXISTING)
- WETLAND
- IMPACTED WETLAND
- CONSTRUCTED WETLAND
- 1870 CONSTRUCTED CONTOUR

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL COORDINATES AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. DEVIATIONS FROM THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE GRADING.
2. 2012 NAIP AERIAL PHOTOGRAPHY SOURCE DATA.
3. SEED ALL DISTURBED AREAS.



Carlson McCain
 ENVIRONMENTAL - ENGINEERS - SURVEYORS
 800 S. 2nd St., Suite 105, Bismarck, ND 58504
 Phone 701-255-1475 Fax 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.
Kirk V. Page
 Date 6/10/2013 Reg. No. PE-8682

BRUNINI FIRM
 190 East Capitol Street
 Jackson, Mississippi, 39201

**WILLISTON VILLAGE
 RV RESORT**
 Williams County, North Dakota

**WETLAND MITIGATION
 GRADING PLAN**

Project No. 4554

3
 3



ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

May 17, 2013

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

Dear Mr. Bunini,

Carlson McCain, Inc. is pleased to submit the Wetland Delineation Report for your review.

Please call me at 701-595-7004 if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads 'Greg W. Meyer'.

Greg Meyer, MS
Ecologist

WETLAND DELINEATION REPORT

Williston Village RV Resort
Section 24, T155N, R101W
Williams County, North Dakota
Project #4554

Prepared for:

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

May 17, 2013



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ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

Wetland Delineation Report
Williston Village RV Resort
Williams County, North Dakota

Williston Village RV Resort Wetland Delineation
Section 24, T155N, R101W
Williams County, North Dakota

TABLE OF CONTENTS

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3.0 RESULTS 3
4.0 REFERENCES 4

APPENDICES

- Appendix A Figures
- Appendix B USACE Wetland Determination Data Forms
- Appendix C Project Area Photographs

1.0 SCOPE OF WORK

Construction of the Williston Village RV Resort has impacted a former oxbow / meander channel of Camp Creek in Section 24, T155N, R101W, Williams County, North Dakota (Appendix A, Figure 1). The RV Resort is located within the Bakken Industrial Park Subdivision of Williston, North Dakota (Project Area). Camp Creek and associated wetlands flow east through the north portion of the Project Area (Appendix A, Figures 2 and 3).

Carlson McCain, Inc. delineated the edge of Camp Creek and its associated wetlands within the Project Area (Appendix A, Figures 3 and 4). The Project Area is approximately 117 acres in size and wetlands are only located in the northern portion of the Project Area. The Project Area is located within the Little Muddy River (10110102) Hydrologic Unit Code.

The wetland field delineation was conducted on May 9, 2013 by Greg Meyer, Ecologists, Carlson McCain, Inc.

2.0 PROCEDURES

Resource information was used to identify and aid in delineation of potential wetlands within the Project Area. Williams County NAIP 2012, 2010, 2009, and 2005 aerial photographs; U.S. Fish and Wildlife Service National Wetland Inventory (USFWS, 2013); and the digital web soil survey of Williams County (USDA-NRCS, 2013) were consulted prior to the wetland field delineation.

The wetland field delineation was conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) (Manual)*.

All wetland areas were documented with paired upland and wetland observation points. The Wetland Determination Data Form of the Great Plains Manual was completed for each of the observation points. Existing vegetation was classified using hydrophytic vegetation criteria outlined in the Manual and the *National Wetland Plant List* (Lichvar 2012). Hydric soil indicators were determined using the *Field Indicators of Hydric Soils in the United States; Guide for Identifying and Delineating Hydric Soils, Version 7.0* (USDA-NRCS, 2010). Hydrology was determined on-site by observation of hydrologic indicators.

Numerous undocumented boundary-observation points evaluated soils, vegetation, hydrology, and landscape indicators to accurately delineate the wetland boundaries. The frequency of these points was increased in transitional areas between wetland and upland, in which the boundary was not readily apparent. Once determined, the boundaries of delineated wetlands were collected with a Trimble GeoXH Global Positioning System (GPS).

A description of the wetland type and documentation of the vegetation, hydrology, and hydric soils were recorded on the associated USACE Wetland Determination Data Forms (Appendix B) and are identified by either a sequential number (i.e. 1w, 1u, 1w2, 1u2, etc.). The observation point is designated as a wetland soil (w) or upland soil (u). Observation points and wetlands were numbered chronologically in the order they were visited.

The impacted wetland area was delineated by utilizing aerial photography and observation point locations from the wetland field delineation.

3.0 RESULTS

Camp Creek and associated wetlands flow east through the northern portion of the Project Area towards the Little Muddy River (Appendix A, Figures 2 and 3). Construction of the RV Resort has impacted approximately 4.5 wetland acres of a former oxbow / meander channel of Camp Creek (Appendix A, Figure 4). Fill materials (approximately 10 to 15 feet in depth) have been placed on the wetland area and has eliminated wetland functions. Silt fences have been erected along the bottom of the fill area to decrease erosion. Field photographs of the impacted wetland area are included in Appendix C.

The impacted wetland is hydrologically connected with Camp Creek. Alkali grass (*Puccinellia nuttalliana*), saltgrass (*Distichlis spicata*), and foxtail barley (*Hordeum jubatum*) are the prevalent vegetation within the highly saline Camp Creek and its associated wetlands.

4.0 REFERENCES

Environmental Laboratory. 1987. *Corp of Engineers Wetlands Delineation Manual*. Wetlands Research Program. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station, US Army Corp of Engineers, Vicksburg, Mississippi, USA.

Environmental Laboratory. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)*. U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, USA.

Lichvar, Robert W. 2012. *National Wetland Plant List*. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

USDA-NRCS. 2010. *Field Indicators of Hydric Soils in the United States—Guide for Identifying and Delineating Hydric Soils, Version. 7.0* in G.W. Hurt, L.M. Vasilas, and C.V. Noble, editors. USDA-NRCS in cooperation with the National Technical Committee for Hydric Soils.

USDA-NRCS. 2013. Web Soil Survey of Williams County, North Dakota.
<http://websoilsurvey.nrcs.usda.gov/app> Accessed May 2013.

USFWS. 2013. United States Fish and Wildlife Service. National Wetlands Inventory.
<http://wetlandsfws.er.usgs.gov/NWI/> Accessed May 2013.

Appendix A

Figures

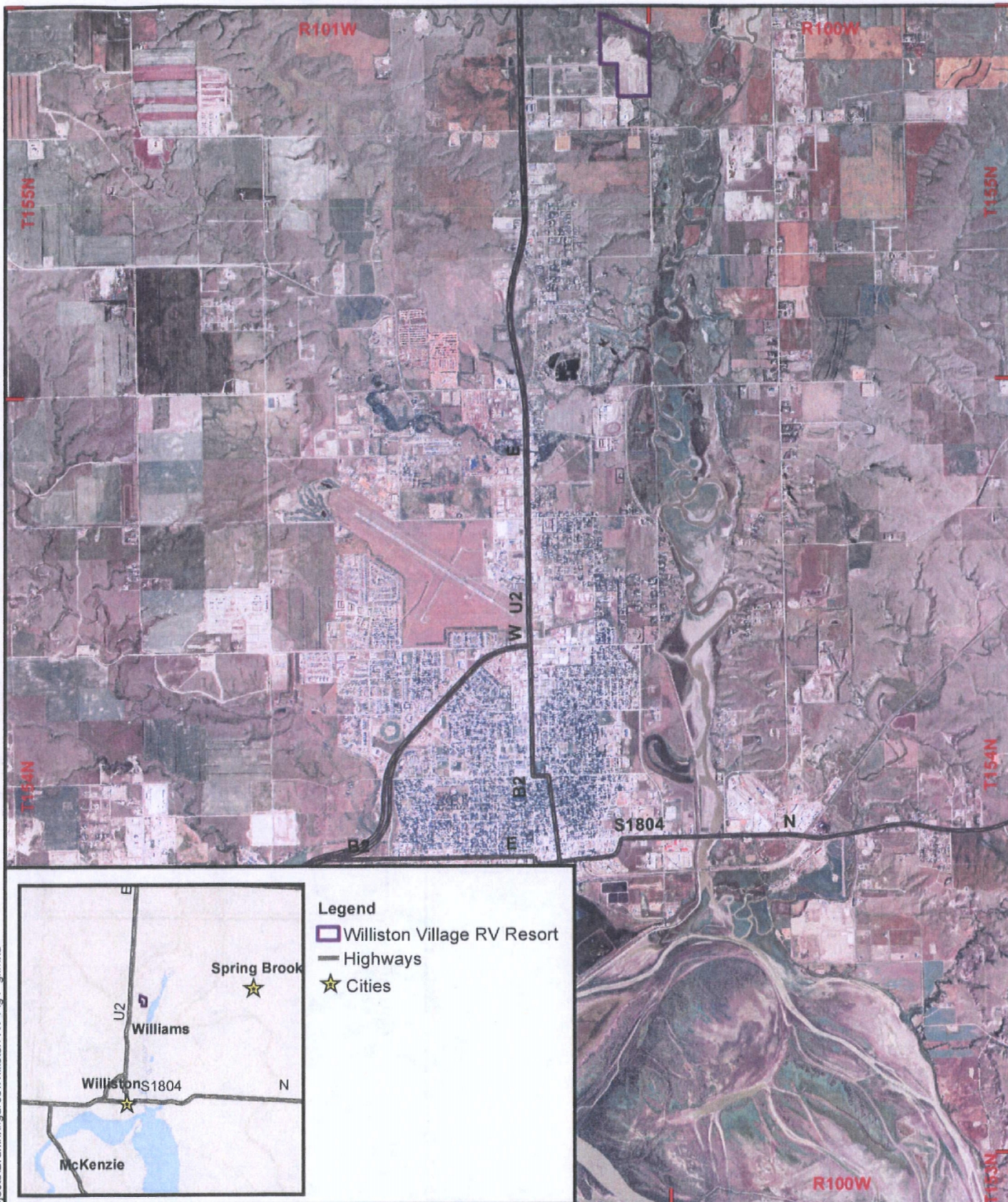
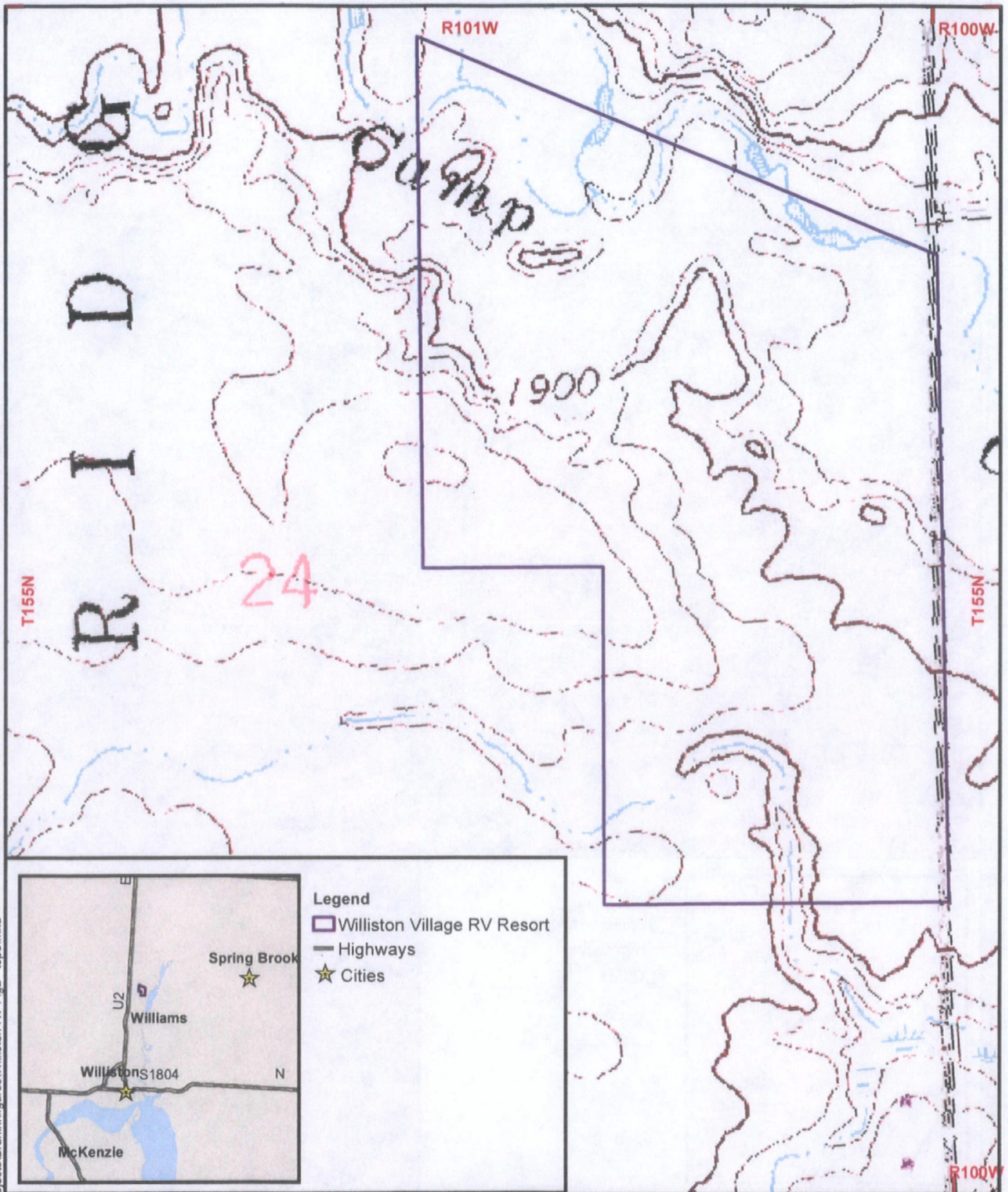


Figure 1
General Location
Section 24, T155N, R101W
Williston Village RV Resort

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1:6,000

1 inch = 500 feet

0 125 250 500 Feet

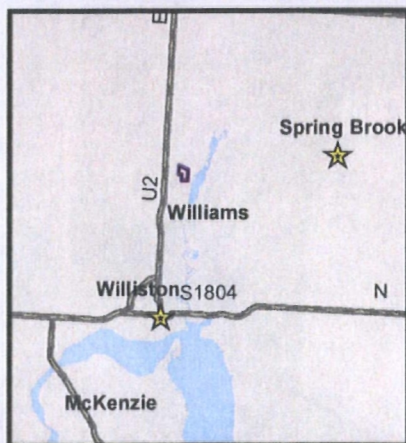
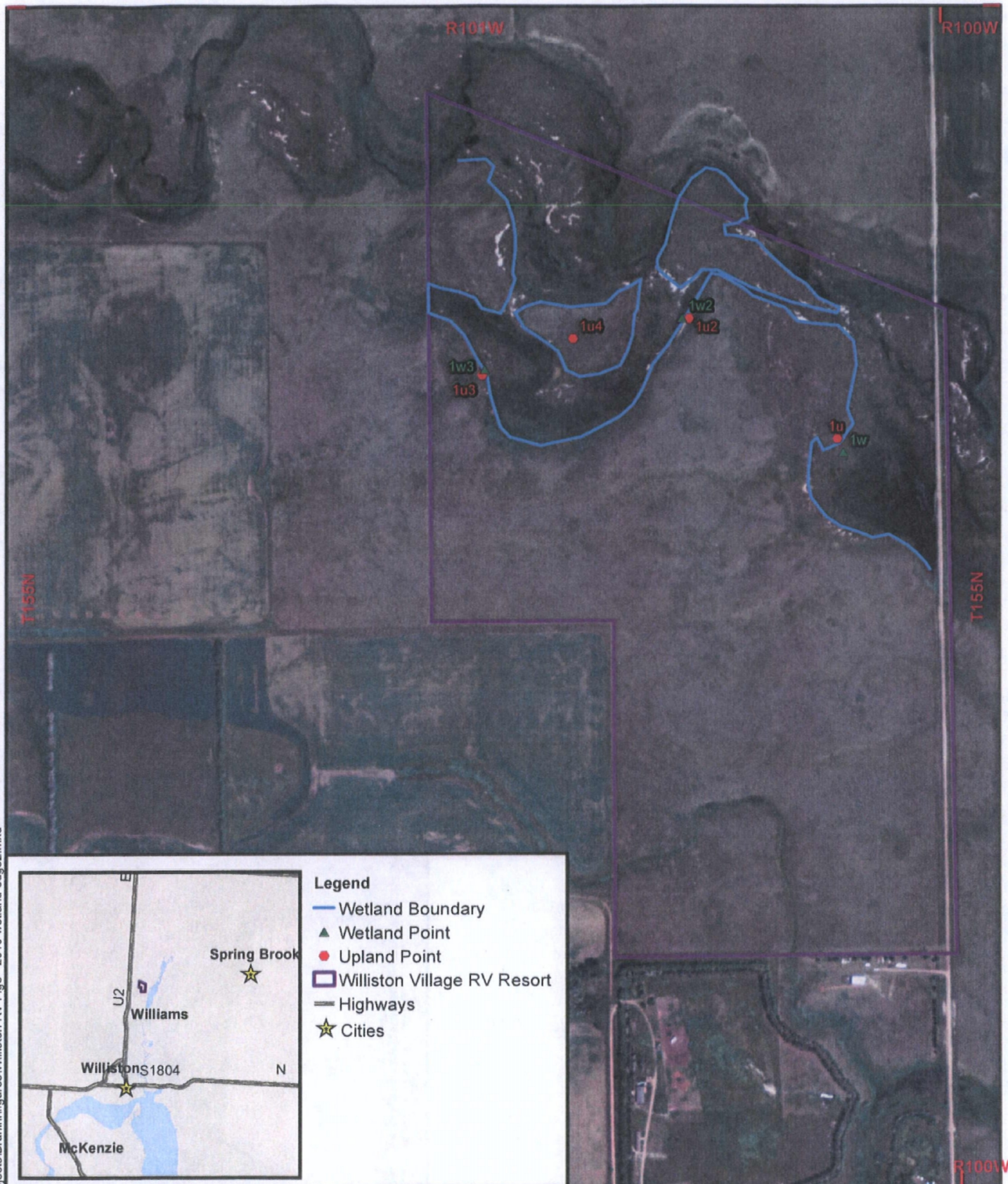
Basemap: USGS Topographical Quadrangle
Williston East, (48103b3) 1976



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Figure 2
Topography
Section 24, T155N, R101W
Williston Village RV Resort



Legend

- Wetland Boundary
- ▲ Wetland Point
- Upland Point
- Williston Village RV Resort
- Highways
- ★ Cities

1:6,000

1 inch = 500 feet

0 125 250 500 Feet

Basemap: NAIP Orthophoto 2010
Williams County, North Dakota



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Figure 3
Delineated Wetlands
Section 24, T155N, R101W
Williston Village RV Resort

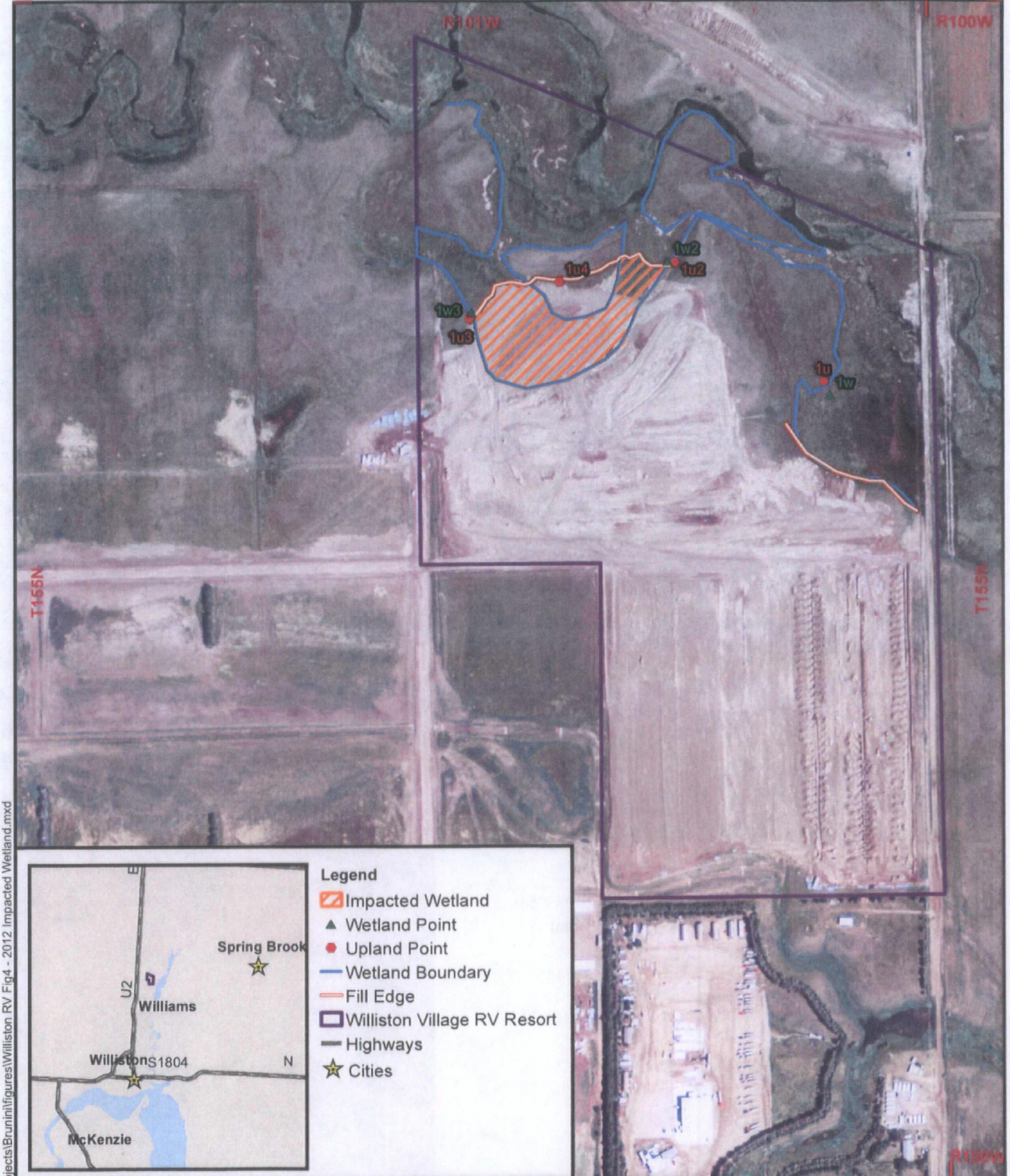


Figure 4
Impacted Wetland
Section 24, T155N, R101W
Williston Village RV Resort

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Appendix B

U.S. Army Corps of Engineers Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1w
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave Slope (%): ≤1
 Subregion (LRR): E Lat: 48.235618N Long: -103.605565W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Floodplain wetland adjacent to Camp Creek.		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	_____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	_____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	_____ (A/B)
4. _____	_____	_____	_____		
				= Total Cover	
Sapling/Shrub Stratum (Plot Size: _____)					
1. _____	_____	_____	_____	Prevalence Index worksheet:	
2. _____	_____	_____	_____	Total % Cover of:	Multiply by:
3. _____	_____	_____	_____	OBL species _____	x1 = _____
4. _____	_____	_____	_____	FACW species _____	x2 = _____
5. _____	_____	_____	_____	FAC species _____	x3 = _____
				FACU species _____	x4 = _____
				UPL species _____	x5 = _____
				Column Totals: _____	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: 5ft)					
1. <u>Hordeum jubatum</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
2. <u>Puccinellia nuttalliana</u>	<u>40</u>	<u>yes</u>	<u>OBL</u>	<input checked="" type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation	
3. <u>Carex praegracilis</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	_____ 2 - Dominance Test is >50%	
4. <u>Distichlis spicata</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	_____ 3 – Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
				= Total Cover	
Woody Vine Stratum (Plot Size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
				= Total Cover	
% Bare Ground in Herb Stratum <u>0</u>					
Remarks: Salt along bottom of vegetation.					

SOIL

Sampling Point: 1w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-6	2.5Y 3/1	100					sicl	A
6-9	2.5Y 3/2	90	2.5Y 5/1	10	d	m	sicl	Bw
9-16	Gley 1 4/5G	60					cl	C
	2.4Y 4/1	40					cl	c

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Remarks:

Gley soils along drainageway.

Hydric Soils Present? Yes ☒ No ☐

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2Water Table Present? Yes ☒ No ☐ Depth (inches): 1Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1u
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): flat along drainageway Local relief (concave, convex, none): plane Slope (%): ≤1
 Subregion (LRR): E Lat: 48.235766N Long: -103.605654W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stinson Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Flat along floodplain wetland adjacent to Camp Creek.</u>		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
= Total Cover				
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is >50% _____ 3 – Prevalence Index is ≤3.0 ¹ _____ 4 – Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot Size: <u>5ft</u>)				
1. <u>Agropyron canium</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Grindelia squarrosa</u>	<u>10</u>	<u>no</u>	<u>UPL</u>	
3. <u>Sonchus arvensis</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Distichlis spicata</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
10. _____	_____	_____	_____	
= Total Cover <u>110</u>				
Woody Vine Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOIL

Sampling Point: 1u

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-6	2.5Y 3/2	100	—	—	—	—	sicl	—
4-9	2.5Y 4/3	100	—	—	—	—	sicl	—
9-16	2.5Y 3/3	100	—	—	—	—	sicl	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)**Indicators for Problematic Hydric Soils³:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF 12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	

Restrictive Layer (If present):

Type: —

Depth (Inches): —

Hydric Soils Present? Yes ☐ No ☒

Remarks:

Non-hydric soils above floodplain wetland

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	(where tilled)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches):Water Table Present? Yes ☐ No ☒ Depth (inches):Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1w2
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave Slope (%): ≤1
 Subregion (LRR): E Lat: 48.237098N Long: -103.608145W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Old oxbow / meander channel adjacent to Camp Creek. Fill pushed into part of the oxbow channel.		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			= Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot Size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot Size: 5ft) 1. <u>Hordeum jubatum</u> 30 yes FACW 2. <u>Puccinellia nuttalliana</u> 80 yes OBL 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 110 = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 – Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot Size: _____) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>0</u>				
Remarks: Salt along bottom of vegetation.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: 1w2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-4	2.5Y 5/1	95	Gley 1 4/5G	5	d	m	sicl	
4-12+	2.5Y 5/1	80	Gley 1 4/5G	20	d	m	cl	

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

Reduced soils with Gley depletions along old oxbow / meander channel of drainageway (Camp Creek).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1u2
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): E Lat: 48.237090N Long: -103.608145W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Nearly barren of vegetation due to high salt at base of toeslope.</u>		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 – Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot Size: 5ft)				
1. <u>Distichlis spicata</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	
2. <u>Puccinellia nuttalliana</u>	<u>10</u>	<u>yes</u>	<u>OBL</u>	Remarks:
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Remarks:
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot Size: _____)				Remarks:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>70</u>				

SOIL

Sampling Point: 1u2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-26	10YR 3/2	100	—	—	—	—	sicl	—
26-30+	2.5Y 3/3	100	—	—	—	—	sicl	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (Inches): —

Hydric Soils Present? Yes ☐ No ☒

Remarks:

Non-hydric soils above old oxbow / meander channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Depth (inches):
Water Table Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): 25
Saturation Present? (includes capillary fringe)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): 21

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1w3
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave Slope (%): ≤1
 Subregion (LRR): E Lat: 48.236584N Long: -103.611346W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Old oxbow / meander channel adjacent to Camp Creek. Fill pushed into part of the oxbow channel.		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
			= Total Cover		
Sapling/Shrub Stratum (Plot Size: _____)					
1. _____	_____	_____	_____	Prevalence Index worksheet:	
2. _____	_____	_____	_____	Total % Cover of: Multiply by:	
3. _____	_____	_____	_____	OBL species	x1 = _____
4. _____	_____	_____	_____	FACW species	x2 = _____
5. _____	_____	_____	_____	FAC species	x3 = _____
			= Total Cover	FACU species	x4 = _____
				UPL species	x5 = _____
				Column Totals:	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
Herb Stratum (Plot Size: 5ft)					
1. <u>Juncus longistylis</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators:	
2. <u>Carex praegracilis</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation	
3. <u>Distichlis spicata</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
4. <u>Agropyron canium</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	_____ 3 – Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	_____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
			<u>110</u> = Total Cover		
Woody Vine Stratum (Plot Size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
			= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOIL

Sampling Point: 1w3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-4	10YR 3/1	100					sicl	
4-10	2.5Y 4/1	85	10YR 4/4	15	c	m	sicl	
10-26+	2.5Y 4/2	70	10YR 4/4	20	c	m	sicl	
			7.5YR 4/4	10	c	m	sicl	

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

Hydric soils within old oxbow / meander channel of drainageway (Camp Creek).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1u3
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): E Lat: 48.236525N Long: -103.611380W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>Toeslope with water and saltcrust nearby.</u>		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Indicators: ____ 1 – Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 – Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot Size: <u>5ft</u>)				
1. <u>Agropyron canium</u>	<u>40</u>	<u>yes</u>	<u>UPL</u>	
2. <u>Achillea millefolium</u>	<u>5</u>	<u>no</u>	<u>FACU</u>	Remarks:
3. <u>Cirsium flodmanii</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	
4. <u>Poa pratensis</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	
5. <u>Symphotrichum ericoides</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Woody Vine Stratum (Plot Size: _____)
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot Size: _____)				Remarks:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

SOIL

Sampling Point: 1u3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-5	2.5Y 3/1	100	—	—	—	—	cl	—
5-15	2.5Y 4/3	100	—	—	—	—	cl	—
15-18	2.5Y 4/3	100	—	—	—	—	ls	sandy layer
18-27+	2.5Y 4/3	100	—	—	—	—	l	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (Inches): —

Hydric Soils Present? Yes ☐ No ☒

Remarks:

Non-hydric soils above old oxbow / meander channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Depth (inches):
Water Table Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): 12
Saturation Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): 8

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project Site: Williston Village RV Resort City/County: Williams Sampling Date: 5/9/13
 Applicant/Owner: Carlson McCain State: ND Sampling Point: 1u4
 Investigator(s): Greg Meyer Section, Township, Range: 24-T155N-R101W
 Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): E Lat: 48.236923N Long: -103.609927W Datum: NAD 83
 Soil Map Unit Name: 2270 - Harriet and Stirum Soils 0-2% slopes NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampling Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Side-slope above impacted wetland area.</u>		

VEGETATION – Use scientific names of plants

Tree Stratum (Plot Size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
= Total Cover				
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ____ 1 – Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 – Prevalence Index is ≤3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot Size: <u>5ft</u>)				
1. <u>Poa pratensis</u>	<u>95</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Pascopyrum smithii</u>	<u>15</u>	<u>no</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
10. _____	_____	_____	_____	
= Total Cover <u>100</u>				
Woody Vine Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOIL

Sampling Point: 1u4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100	—	—	—	—	!	—
4-16	10YR 3/3	100	—	—	—	—	!	—
16-26+	10YR 4/3	100	—	—	—	—	!	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

¹Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 CM Mucky Peat or Peat (S2)(LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF 12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (Inches): —

Hydric Soils Present? Yes ☐ No ☒

Remarks:

Non-hydric soils above old oxbow / meander channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Depth (Inches):
Water Table Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (Inches): 12
Saturation Present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (Inches): 8

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Project Area Photographs



Photograph 1. Photograph of Williston Village RV Resort fill materials up to wetland edge. The wetland is located within the floodplain of Camp Creek. The sediment fence is located along the wetland boundary. Photograph taken facing southeast.



Photograph 2. Photograph of impacted wetland. The wetland consists of a former oxbow / meander channel of Camp Creek. Approximately 4.5 acres of wetland have been impacted by the construction of the RV Resort. Photograph taken near-to observation point 1w2 and facing west.



Photograph 3. Photograph overlooking impacted wetland. Photograph taken facing north.